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ABSTRACT

Occupational transferability is an aspect of human performance that enables individuals to move successfully from one occupation to another. Insights about occupational transferability were gained from site visits to programs currently operating in fourteen organizations in business, industry, and education. These programs were selected because of their focus on job skills and their recognition of the need for preparation for career change. Five types of skill development for occupational transferability were noted: namely, task performance skills common to occupations; skills for applying broadly usable knowledge; personal and interpersonal effectiveness skills; self-analysis skills; and career-management and productivity skills. Examples from the programs show how these skills are being developed. From this study, several tentative concepts have formed that may enhance our understanding of the competencies required to perform a variety of tasks in various occupational roles. Ten recommendations for future research and development to suggest possible directions for meeting needs in existing practice are given. (KC)

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DEVELOPING SKILLS FOR OCCUPATIONAL TRANSFERABILITY

Insights Gained from Current Practice

by

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The Ohio State University
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December 1977

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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FOREWORD

This report is part of a study of the state of knowledge with regard to transferable skills. The various thrusts of the study have separately focused on the nature of transferable skills, on the processes of skill transfer, on existing occupational change data that might facilitate research, on analytic structures available or needed, on the characteristics of occupationally mobile persons, on the role of transferable skills in the labor market, and on the recognition and development of transferable skills in various educational and training programs. Taken as a whole, it is hoped that these endeavors will contribute to a better overall understanding of the role skills play in occupational transfers.

This report examines what is currently being done in several educational programs to develop skills for occupational transferability and reflects observations resulting from the program site visits. It also presents insights gained in conversations with many persons representing selected programs who were very generous in sharing their time and experiences. We are indebted to each one for their courtesy and interest. In particular, we wish to acknowledge: Richard Gummere, Jr. and J. Arnold O'Steen, Columbia University; Edward Malott, Jr. and Treadway Parker, American Management Associations; Patrick Montana and George Davenel, National Center for Career Life Planning; Hal Schreck, Frank Maestas, and Julie Dimler, American Telephone and Telegraph Company; James Bruce, Mountain Bell Telephone Company; Irving Moskowitz, Thomas Manion, Eloise Lee, Donald Taylor, and Val Sena, Denver Career Education Center; Jean Kordalewski, Donn Vickers, Peggy Van Arnam, Mary Lou Bagdovitz, and Jennie Mingolelli, Regional Learning Service; Anne McMichael, Robert Boegli, and Norine Stritter, Broward County Schools; Betty Benson, Northrop Corporation; James Haun, Rockwell International; Donald Averill, Huntington Beach Union High School District; Joe Cooney, San Mateo County Schools; Marlys Hanson, Lawrence Livermore Laboratories; Donald Miller, International Business Machines Corporation; Napoleon Triplett, Susan Brown, Carolyn Dodge, and Linda Holmes, Mesa Verde High School.

Marcia Freedman, Jerome Moss, Jr., and Calvin Taylor served as the project's Panel of Consultants. We thank them for their guidance in decisions concerning the program visits, and for their review of this report.

We also wish to express our appreciation to Richard Miguel for conducting the program visits and preparing this report, to Allen Wiant and William Ashley for their assistance in planning and carrying out the interviews, to Frank Pratzner for his overall direction of the transferable skills project, and to Robert Stump, Project Officer of the National Institute of Education for his encouragement and support.

Robert E. Taylor
Executive Director
The Center for Vocational Education

PREFACE

This paper is addressed to educational practitioners interested in enhancing individual potential for dealing with career change. The information presented reflects insights gained from site visits to programs currently operating in 14 organizations in business, industry, and education. These programs were selected because of their focus on job skills and their recognition of the need for preparation for career change.

Five types of skill development for occupational transferability are discussed, namely:

- Task performance skills common to occupations
- Skills for applying broadly usable knowledge
- Personal and interpersonal effectiveness skills
- Self-analysis skills
- Career management and productivity skills

Examples from the programs are provided to illustrate how these skills are being developed.

Several tentative concepts have surfaced that seem to enhance our understanding of the competencies required to perform a variety of tasks in various occupational roles. These concepts are reported in the hope that they will contribute to the conceptualization of the study of occupational transferability. Accompanying each concept statement is a discussion of attendant issues, caveats, and implications.

This report concludes with ten recommendations for future research and development. These recommendations are intended to highlight apparent needs in existing practice and to suggest possible directions for meeting those needs.

While reading this report, one should keep in mind that the programs we chose to visit represent a select sample rather than a scientifically designed random sample. Therefore, what you will read, in no instance, should be generalized beyond the programs we visited nor amongst the programs themselves. For example, the school-based programs encompass many occupational categories and levels, while the programs involving mature job changes are dealing with people fairly high up in the occupational structure.

But our intent was not to make generalizations. Instead, we sought out innovative programs that in whole or part were directed toward preparation for occupational transfers so that we could discuss with the program personnel how they were developing skills for occupational transferability. What we were looking for then, and what we think we found, were insights on occupational transferability, examples of how to develop it, and suggestions for improving existing educational practices. The persons we chose to interview were outstanding. They helped to clarify our thinking on

the subject, tempered our conceptualizations with the wisdom of their experience, and reaffirmed our belief in the worth in this undertaking.

Another thing to keep in mind while reading this report is that we have not described the programs in total. Instead we have included only parts of selected program activities to illustrate aspects of the thesis we were trying to develop. Therefore, it should not be inferred that any program referred to in this report is limited to what is presented.

Throughout the report we have tried to give the reader our best impressions of what we learned and how it relates to the development of skills for occupational transferability. In all instances, these impressions must be submitted to further research and documentation.

Special Notes to the Reader

1. A number of program characteristics raised basic questions for us as we attempted to describe them for consideration by others. We decided to share some of these questions with the reader in the hope that they might stimulate further thought and discussion. Hence, we have inserted them at appropriate points in the text, though they are not in themselves a part of the text. See page 8 for an example.

2. For convenience, we have used acronyms in referring to the programs cited in the report. Some of these acronyms are of our own invention, however, since not all of the program administrators or originators use them to refer to their own programs. Our use of them is as defined in Figure 1.

TABLE OF CONTENTS

FOREWORD iii

PREFACE v

INTRODUCTION 1

OCCUPATIONAL TRANSFERABILITY: WHAT IT IS AND HOW TO DEVELOP IT 5

What Is Occupational Transferability? 5

Five Considerations for Skill Development 5

Task Performance Skills Common to Occupations 6
Skills for Applying Broadly Usable Knowledge 14
Personal and Interpersonal Effectiveness Skills 14
Self Analysis Skills 15
Career Management and Productivity Skills 18

TENTATIVE AND EMERGING CONCEPTS 23

RECOMMENDATIONS FOR FUTURE RESEARCH AND DEVELOPMENT 27

SUMMARY 31

REFERENCES 33

PROGRAM SCENARIOS 35

LIST OF FIGURES

Figure		
1	Program briefs	3
2	Competency based model—Huntington Beach Union High School District	10
3	Selected skills from AMA's course descriptions for management development	13
4	Personal and interpersonal effectiveness "sample ingredients"	16
5	The employee/organization interface	19
6	Selected items from IBM's "Personal Growth and Vitality Inventory"	21

INTRODUCTION

Who wants to hire me? I just got out of school and I haven't done anything.

I just lost my job and nobody is hiring teachers any more. What's going to happen to me.

I'm just a housewife. What kind of job can I get? I can't do anything.

I always dreamed of my retirement, but now that I'm retired I feel lost. I need something to do . . . but what?

Another assignment! This is the fourth time I've been moved in three years. I wonder if I'll be able to do the new job?

Sound familiar? Far fetched? Increasingly, American workers find themselves confronted with the prospect of changing jobs. Whether by choice, necessity, or request, it has been projected that the average worker may change careers as many as five times in his or her lifetime. That's about 350 million job changes in the lives of the current work force! Surely such a large number of job changes will produce lasting consequences for both employees and employers. For some it will mean chaos and frustration. For others it will be welcomed with excitement and vigor. And for many it will mean moving mindlessly from one position to another just to survive. Despite the recurrence of this phenomenon and the inevitability that it will continue, the vast majority of Americans seem to have an "I'll worry about it when I come to it" attitude about this seemingly critical aspect of their lives.

But why are we so cavalier? Why do we continue to educate ourselves and live out our work lives as if they will be characterized by stability and permanence?

Perhaps the explanation lies in the assumption that we cannot do anything about it, or more optimistically, in the belief that jobs are always available and that it is relatively easy to learn how to do one once you get it. But unfortunately, an observer of workers in transition cannot testify that their experiences are pleasant or facile. Quite the contrary. For many it is an anxious time—a time of uncertainty and self-doubt.

Apparently, somewhere along the line many of us have developed the notion that each job differs from the next and that our skills are not transferable unless we are making a move to a very similar job. Even then there is considerable apprehension. This results in feeble attempts to get jobs—often with mediocre results. Obviously, this state of affairs is not optimally conducive to securing satisfactory jobs or productive workers. Yet, as we are beginning to raise a generation that will begin their careers in the twenty-first century, we find ourselves shackled by employment practices and misconceptions about our abilities that impair our movement and success in the work world.

We must find ways to develop human resources so that employees can derive satisfaction and personal productivity from their work *and* employers can attain their goals of efficiency and productivity.

The Ohio State University's Center for Vocational Education, under the sponsorship of the National Institute of Education, has conducted a study to determine what can be done to enhance individual potential for success as persons move from one job into another. Among the various phases of this project was an investigation of current practices in education, business, and industry designed to prepare their clientele for careers characterized by change. We hoped that from this probe we would gain a clearer understanding of the skills required to perform various tasks in a variety of occupational roles and insights into how people can develop these skills.

Our initial search revealed no programs whose principal focus was the development of transferable skills. What we found, instead, was a preponderance of programs whose aim was to prepare people for their job choices by equipping them with skills specific to those jobs. In short, we found little programmatic effort explicitly directed toward occupational transferability. This was unsettling, especially in light of the prospect of job change and the uncertainty that individuals will obtain work directly related to their training.

We decided to change our approach slightly. This time we looked for programs that showed an awareness of the need to develop skills that would make workers transferable. Approximately 90 programs were recommended to us. In talking with representatives of candidate programs we found, as we had earlier suspected, that they were keenly aware of the problems associated with career changes although they did not use the term "transferable skills" in connection with their programs.

While we planned for eight program visits, we were able to extend the number to 14 and still remain within our budget due to the fact that several of our top choices were located in close proximity to one another. Each visit, which lasted one or two days, consisted of informal interviews with program personnel and was conducted by two of our project staff. When possible, observations of the program in action were made. Figure 1 provides brief descriptions of those programs. More information related to the programs can be found in the Program Scenarios at the end of this report.

The remainder of this paper attempts to amalgamate the knowledge and insights we gained, and hopefully, to do justice to these exemplary efforts to prepare people for a productive work life. It must be pointed out, though, that our visits to these programs did not uncover the "gold mine" that we were looking for. No one program had the formula for making people better equipped to make successful job transfers—they never claimed to have it. Even in combination they do not provide a blueprint for a comprehensive program to prepare people for career change—we never expected them to do so.

What you will discover is that these programs did give us a clearer perspective of the problems and needs of people as they make transitions from school to work or from job to job. They also showed how they are coming to grips with these problems and needs, the strategies they are employing, their accounts of success, and their views of what still needs to be done.

It would be helpful if we could present a neat list of skills for job transfers and a "cookbook" for developing them. But the complexities of this topic, the subtleties and nuances associated with the discussion of skills and their development, the ambiguity of the terminology, and differences of opinion all would raise considerable doubt as to the validity and credibility of any attempt to be definitive. Nevertheless, we do have considerable insight into what the items on this list might look like as well as the cautions and qualifiers that of necessity must be taken into account.

ACE Adult Competency Education
San Mateo County Schools
Redwood City, California

To equip adult students with basic mathematics, reading and writing skills in preparation for frequently occurring unskilled and semi-skilled jobs.

ACT Advanced Career Training
Rockwell International
Downey, California

To provide high school students with experience in an industrial environment to gain job skills and work attitudes for successful employment.

BET Business Enterprise Training
Mesa Verde High School
Citrus Heights, California

To equip students with salable knowledge and skills for success in the employment market through student operated small business enterprises.

CBM Competency Based Model
Huntington Beach Union High School District
Huntington Beach, California

To enable high school students to acquire basic job competencies for initial job entry through existing courses and regional occupational programs.

CEC Career Education Center
Denver City Schools
Denver, Colorado

To provide students in all Denver high schools with opportunities to de-develop job competencies and explore careers at a central location.

CLP Career Life Planning
National Center for Career Life Planning
New York, New York

To promote career opportunities, programs, and strategies for older workers facing job reentry problems.

CPD Career Planning and Development
Lawrence Livermore Laboratories
Livermore, California

To help employees recognize their skills and the many uses of them and to assist employees contemplating career changes.

CPS Career Planning Services
Regional Learning Service
Syracuse, New York

To assist adults in formulating and implementing career and educational plans including identifications of transferable skills and the acquisition of job-seeking expertise.

DIG Deeper Investigation of Growth
Columbia University
New York, New York

To assist students and alumni in finding, launching, and pursuing careers through analysis of skills and their use in occupations.

HIP High School Involvement Program
Northrop Corporation
Hawthorne, California

To provide students with on-the-job training to develop employability skills and desirable work values and attitudes.

MDP Management Development Programs
American Management Associations
New York, New York

To help managers develop to the utmost of their capacities by developing widely useful administrative and interpersonal skills.

PVP Personal Vitality Program
International Business Machines
San Jose, California

To help improve the performance and productivity of engineers by guiding them in developing ability to perform effectively.

SSP Salable Skills Program
Broward County Schools
Fort Lauderdale, Florida

To equip high school students with skills necessary to perform entry level jobs and skills to get and keep jobs.

UTP Upgrading and Transfer Plan
American Telephone and Telegraph
New York, New York

To provide procedures to be followed in handling non-management promotions, laterals, and downgrades within any AT&T company.

Figure 1. Program briefs.

OCCUPATIONAL TRANSFERABILITY: WHAT IT IS AND HOW TO DEVELOP IT

What skills are needed for occupational transfers? It became evident that no one's list of skills had a legitimate claim to being better than others. Our best impression after talking with the program people is that all skills are potentially useful. However, in a specific job change some will play a more important role than others. It depends on the job situation and the people involved.

While the above statement appears to be true, it is not particularly helpful to individuals who want to equip themselves with the skills most likely to be needed in the job changes they will make. So instead of searching for a list of transferable skills and engaging people in a debate as to which skills are transferable and which are not, our program visits sought to gain a better understanding of skills that frequently come into play as individuals move into new job assignments. The following are the insights we gained for increasing individual potential for occupational transferability.

What is Occupational Transferability?

Occupational transferability is an aspect of human performance that enables individuals to move successfully from one occupation to another. The indicators of transferability are inferred from the behavior of individuals who make successful occupational transfers and are manifested in statements of what these persons are like and what they know and can do.

The development of these skills and characteristics occurs over a long period of time and is subject to many environmental influences. Hence, individuals develop their own unique combinations and patterns of occupational transferability. This idiosyncratic quality contributes considerability to the difficulty of delineating its components, but, as a result of our interviews, we were able to ascertain five relatively distinct features that, if developed, should increase an individual's chances for making successful occupational transfers.

Five Considerations for Skill Development

The following five areas of skill development were identified in the 14 programs we visited:

- Task performance skills common to occupations
- Skills for applying broadly usable knowledge
- Personal and interpersonal effectiveness skills
- Self-analysis skills
- Career management and productivity skills

The first consideration in becoming occupationally transferable is to acquire multiply applicable job skills. This means participating in experiences to develop skills that enable you to perform various tasks in a variety of occupational roles. It also means becoming aware that some skills have wider applicability to jobs than do others and that certain skills being developed for one occupation have the potential for use in many other jobs *even if at first they may seem unrelated.*

A second consideration is to develop a broad base of knowledge that will be useful in many job situations. Clearly, individuals whose store of information is rich in facts and fundamental concepts from areas such as math, science, logic, language arts, aesthetics, and social studies will have more to contribute to their jobs than those whose intellect is limited to superficial, pedestrian, or esoteric knowledge. Concomitantly, this enriched knowledge base can contribute to occupational transferability only if individuals possess the necessary skills to apply it.

A third consideration is to cultivate personal and social skills. These highly desirable skills enable you to function effectively with supervisors, subordinates and coworkers to accomplish work goals. More often than not these skills are spoken of in terms of the personality characteristics of successful workers. For example, these workers are described as industrious, cooperative, friendly, or conscientious. In regard to occupational transferability, however, one must focus on whether individual behavior demonstrates possession of those characteristics.

A fourth consideration is skill in self-analysis. This involves knowing who you are and what you are capable of doing. Having a good grasp of your abilities, interests, needs, values, and attitudes puts you in touch with the resources you can draw upon to be an effective worker. It also helps you to discern courses of action that lead to success in work. It is surprising to note how few individuals appreciate their personal resources and understand their utility in employment.

The fifth consideration is to become competent in managing your overall career. This involves having clearly defined career objectives, making personally satisfying job choices and decisions in terms of those objectives, getting the most out of each work experience including recognition for success, and knowing when and how to make job moves. It also involves competence in organizing and manipulating your skills and knowledge to bring them into play at the right time with optimal effect. Being able to maneuver successfully among the welter of events that occur early in a new job requires that individuals have a clear grasp of the job demands and the ability to respond adroitly. Similarly, being in control of your own career seems to facilitate occupational transfers because of the likelihood of being sensitized to the opportunities in the new job to advance your goals and the likelihood of integrating these transitional experiences into a total career pattern.

Let's look at these five skill areas more closely drawing on our program interview information for illustration.

Task Performance Skills Common to Occupations

Assuming that all jobs could be analyzed in such a way as to specify all the skills required to perform the tasks that make up the jobs, then it should be possible through scanning and screening to rank skills by the number of jobs that require them. The highest frequency skills would then be, by definition, the most transferable because the likelihood of transferring them to any given occupation would be greatest. The result of such an analysis would provide individuals who are developing skills with an index of transferability for those skills. Thus, individuals who develop many of the highest frequency skills would have the most opportunities to use them in almost any job they might enter.

Our interviews frequently revealed that there are job changes that can be made relatively easily because of the high degree of task similarity among jobs. Several of the programs not only make students aware of these similarities but also use this relatedness factor as a means for structuring their skills development programs.

We were able to observe three distinct structuring devices operating in the programs related to skill commonalities. Some of the programs used all of them; others used only one of the devices to structure their program. The three skill relatedness factors are:

- Basic skills for entry level jobs
- Occupational core skills
- Skills for performing functions that transcend occupational clusters

Basic skills for entry level jobs. The most fundamental skills for transferability can be found in what employers, educators, and the general public expect, or would like to expect, any worker to have to function in this type of society. These skills are often referred to as basic skills, general skills, functional literacy skills, or life skills. The Generic Skills Project (Smith, 1973), for example, has identified a wide range of academic and interpersonal skills that are fundamental to the performance of many tasks carried out in a wide range of occupations. From their analysis, the following are some of the skills used in the majority of jobs in their data sample:

- Read, write, calculate, and solve problems using whole numbers, fractions, decimals, and percentages.
- Estimate or measure time (e.g., how long it takes to do a job).
- Read notes, letters, memos, forms such as work orders, charts, policy/regulation/instruction manuals.
- Read to determine facts, opinions, purposes; to draw inferences; and to make comparisons.
- Read reference materials such as telephone directories, catalogs, technical manuals, dictionary, etc.
- Complete forms using phrases or sentences.
- Write memos and letters.
- Give or receive information, instructions, or directions.
- Discuss information, viewpoints, methods, procedures with coworkers, supervisors, or clients.

It appeared to be the consensus of those we interviewed that lack of such fundamental skills would seriously impair workers. In fact, individuals so deficient would be excluded from many jobs, and varying degrees of competence in these skills would affect the performance level of any worker in any job. Similarly, these skills or lack of them would doubtless have a great effect on the success of job transfers or, at the very least, on the variety of job transfers that could be made.

The Adult Competency Education Project (ACE) is based upon the work of the Generic Skills Project. Using the Generic Skills questionnaire and taxonomy, ACE interviewed workers to determine basic job skill requirements so that project personnel would be able to discuss with adults why they need math and communication skills. In short, ACE wanted to show their clients that academic skills have job market value.

ACE focused on the most frequently occurring unskilled and semi-skilled jobs in San Mateo County to find which mathematics, reading, and writing skills were required. With this information, ACE prepared 70 job descriptions that give: (1) the reason the skills are needed on the job, (2) an academic statement of the skill (instructional objective), and (3) a job-related task by which a person's skill proficiency can be measured.

An interesting part of this program is the way in which a student's course of study is constructed and monitored. Using a student Competency Profile, abstracted from the skills listed on the job descriptions, students, with a counselor's help, indicate competencies that have been developed and those that must be developed for the job. As skills are mastered, they are checked off. Students then get certificates that show they are prepared for specific job training.

The key to the ACE project is to give adult students skills relevant to their chosen jobs. This involves not only providing instruction in the highly transferable basic skills but also practice in applying these skills to tasks specific to the students' chosen occupations. For persons who want to be prepared for employment but have not focused on a job, ACE has identified skills related to two-thirds of the jobs analyzed. These skills, of course, are very similar to the high frequency skills of the Generic Skills Project.

The ACE project director cautions, however, that it is less effective to teach basic skills without some specific job focus. Apparently, this job relevance of skills adds "meaning" to their development. The project director points out that the job specificity attached to the skills development seems to heighten students' motivation to acquire these basic skills. However, he is concerned that students might fail to recognize the applicability of those skills to other jobs. Any instruction or practice of the skills in other job contexts would be viewed by students with definite job plans as

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Does generalizing a skill to many occupations make it more abstract and less likely to have meaning to students?

Does focusing skills on specific occupations make them more concrete, more meaningful to students, but potentially less transferable?

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time consuming and extraneous. Nevertheless, the project director is confident that the students will be able to transfer these skills to other jobs if need be because they have been mastered in a meaningful context.

ACE combined group vocational counseling with its instructional techniques in order to have students develop positive self-concepts of their skills and recognize that any skill is potentially marketable.

The Huntington Beach Competency Based Model (CBM) has identified skill competencies required for initial job entry. Using a job analysis approach, this high school program has identified

job skills and five areas of general competence that community employers consider most important for success in entry level jobs. Three of the five areas of general competence involve basic skills: communication, computation, and comprehension. By receiving a "Certificate of Competency" for specified entry level jobs, students are acknowledged to be qualified to perform them. Competencies listed on the certificates are transferable from one area to another. In this way, students are made aware of skill transferability.

A matrix design (Figure 2) is used to show how the general competency areas are related to job titles in given occupations. Each competency is assigned a level which indicates its relative necessity for job performance. These levels were determined by interviewing workers. However, there were

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Can levels of competence and utility be set for basic skills used in occupations?

Are job incumbents reliable sources of information on skills required in their jobs?

Do educators know how to pose the right questions to job incumbents to get information about their jobs and do they understand what they hear?

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differences of opinion among the workers interviewed. In some cases, job incumbents saw a skill as absolutely necessary while others saw it as useless. Consequently, CBM's designations reflect the typical responses.

The CBM director noted that subject matter teachers were resistant to this approach at first but have begun to realize their responsibility for teaching and monitoring skills (e.g., spelling and reading) other than those for which they have direct responsibility. Huntington Beach helps teachers identify which job competencies they are responsible for teaching and how their subject matter can be related to those competencies.

The project director feels this program contributes greatly to enhancing students' preparation for a variety of jobs. However, he also feels that much needs to be done to help students become aware of the skills they have developed and jobs in which they can use them. It is clear to him that

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What curricular designing techniques are needed to ensure that students understand the relationship of school skills to a variety of occupations?

Are traditional teaching techniques satisfactory for teaching occupational transferability of skills? Or is this an area for invention?

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it takes more than having teachers understand that their subject matter is related to basic job competencies. The students themselves must see those relationships and must have a variety of work experiences in which to use these competencies.

The Salable Skills Project (SSP) has identified job performance requirements for approximately 200 entry level jobs in Broward County, Florida. The goal is to graduate every high school student with "a salable skill," meaning the acquisition of skills to get, perform, and keep an entry level job.

Class: PHOTOGRAPHY **Occupational Cluster:** COMMUNICATIONS

JOB TITLES / COMPETENCIES	*COMMUNICATION:	Spelling	Sentence structure	Composition	Informal speech technique	Formal speech presentation	Reading	Illustration	*COMPUTATION:	Basic math computation	Math home/bus. applic.	Metric system	Advance math computation	Advance math application	Computer applications	*COMPREHENSION:	Reading for understanding	Analyzing problems	Using reference sources	Complete directions	Synthesizing problems	*COPING:	Getting along w/peers	Providing leadership	Dealing w/frustration	Using time effectively	Setting realistic goals	*MANIPULATIVE SKILL:	Mechanical skill	Machine operation	Finger dexterity
Photo Checker & Assembler		N	D	O	O	O	N	O		N	D	O	O	O	O		N	N	D	N	O		N	D	D	N	N		N	N	N
Darkroom Technician		N	N	D	N	O	N	D		N	N	D	O	O	O		N	N	N	N	D		N	O	N	N	N		N	N	N
Photo Retouching Technician		N	N	O	O	O	N	N		N	N	D	D	O	O		N	N	N	N	O		N	O	D	N	N		N	N	N
Still Photographer		N	N	O	N	O	N	N		N	N	D	D	O	O		N	N	N	N	D		D	D	N	N	N		D	N	D
Portrait Photographer		N	N	O	N	O	N	N		N	N	D	D	O	O		N	N	N	N	D		D	D	N	N	N		D	N	D
Commercial Photographer		N	N	D	N	O	N	N		N	N	D	D	O	O		N	N	N	N	N		N	N	N	N	N		D	N	D
News Photographer		N	N	N	N	O	N	N		N	N	D	D	O	O		N	N	N	N	N		D	N	N	N	N		D	N	D
Motion Photographer		N	N	D	N	O	N	N		N	N	D	D	O	O		N	N	N	N	N		N	N	N	N	N		D	N	D

Code: N: Necessary for job performance in specified job.
D: Desirable skill, but will not affect employment.
O: Optional skill that the employee may or may not use on the job.

SOURCE: Huntington Beach Union High School District. *Competency based model for vocational education programs.* Huntington Beach, CA: Author, 1975-1976, p. 19.

Figure 2. Competency based model—
Huntington Beach Union High School District.

The process of identifying the competencies that make up each salable skill area (i.e., job) involved interviewing job incumbents about the skills required in their job. The next step was to determine about 10 competencies per job type, and the existing related vocational and general education courses available in the schools. With this information, students plan their high school schedules so that they are sure to take those courses intended to equip them with the critical skills for a selected entry level job. The system is computerized by cross listing courses and job competencies. Through grade reporting procedures, they will be able to record competencies developed not only through the courses students have taken but also through their community and work experiences. Upon completion of all the competencies listed in a salable skill area, the student will receive a competency certificate.

While this program does enable Fort Lauderdale to comply with the District Comprehensive Plan's long range objective that every student will graduate with marketable skills, not everyone in Broward County is happy with it. Many are bothered with the narrow occupational focus of each

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If all skills for a job cannot be taught , how do you determine which are the more critical? Should transferable skills have high priority?

Are training for a specific job and training for occupational transferability compatible educational goals?

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student program and the earliness of job choice required (ideally in grade 8). They feel that students should be developing multiple skills and opening more employment options. The proponents of the program argue that students are free to develop multiple skills, make changes in programs, and prepare for more than one job. However, they are steadfast in the belief that *students should at the very least be competent in one salable skill area.* Perhaps some of this dilemma can be resolved using the computerized system to keep students informed of how skills other than the salable skill they are developing contribute to their employability, and particularly how any one competency has multiple occupational utility. Until this is done, the criticism that students will have a narrow occupational focus appears to be justified.

Occupational core skills. The occupational programs of the Denver Career Education Center (CEC) focus on a core program of skills and knowledge related to one field (e.g., health occupations). The rationale for this is to open 30 job possibilities rather than one. Before their courses were developed, instructors with the assistance of the business and industry community, identified the core skills for each occupational field. As a result, students are trained not only for skills to perform tasks for certain jobs but also to realize the wider applicability of those skills in related jobs.

CEC also provides students with awareness of the relatedness of job functions by locating classrooms of courses with interdependent needs near one another. For example, commercial art and design courses are located near fine arts and photography. One benefit of this arrangement is that design students take cost factors such as printing costs into consideration in the products they design. Far more importantly, students so inclined can enroll in these related courses and have the chance to broaden their area of expertise and to transfer their skills and knowledge. The director of the occupational programs notes that students who make school transfers such as these seem to have a better sense of the multiple extensions of their abilities. Whether this is a result of the transfer or a cause of the transfer is uncertain.

Skills for performing functions that transcend occupational clusters. The American Management Associations (AMA) recognize that most of the skills and characteristics they are concerned with in their management courses are transferable because these skills and characteristics are viewed as fundamental to effective management.

AMA offers numerous courses to a large number of clients. The courses that typify what they are doing to develop the skills and characteristics of managers are their offerings in management development. Six major areas of transferable skills and characteristics (Figure 3) have been drawn from their descriptions of those courses: self-assessment, personal and interpersonal effectiveness, communication, decision making and problem solving, managing, and organizational "savvy."

AMA uses a variety of methods to develop these skills, and their courses include a blend of active learning techniques in addition to traditional methods of instruction such as lectures and seminars. Participants learn through small project sessions using in-basket exercises, role playing, the critical incident process, computerized simulation and feedback. Participants apply "classroom" knowledge of management principles, practice, concepts, and theories to actual business situations. This diversity of experience is backed up by analysis and performance critiques. The AMA (1976-77) description of their general management business simulation provides a clear picture of one way participants develop transferability:

> Participants run a business in competitive teams. They bridge the gap between theory and practice by applying knowledge gained at the Course to actual business situations. They steer the company through several quarters of operation . . . rotating roles in different line and staff positions . . . and at different management levels.
>
> They make most of the critical decisions a management team would make, facing such challenges as the timing of raw materials purchases, which facilities to use for production, marketing strategy, hiring and compensation of personnel, research expenditures, pricing and the payment of dividends.
>
> Computer printouts provide them with the results of their decisions as they would most likely occur in a real company . . . the consequences in terms of such factors as inventory levels, personnel turnover, sales, net profit after taxes and return on invested capital.
>
> Throughout the simulation, participants are coached and counseled by Management Course experts as they become totally involved with the operation of a typical American corporation. They enjoy pitting their skills against the other teams to see who can get the best results from practical management decisions (p. 75).

AMA shows sophistication in the manner in which each skill area is delineated. For example, reviewing the course descriptions gives a clear picture of what is included in developing communication skills. Figure 3 shows many of the transferable skills gleaned from the management development

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How can the instructional specificity of skills be increased without detracting from the occupational transferability of those skills?

Self-Assessment

Learning how to learn from one's experience
Relating self-knowledge to career goal setting
Analyzing one's work day
Analyzing strengths and areas of needed improvement in terms of one's job

Personal and Interpersonal

Motivating
Leading
Negotiating
Resolving conflict
Coaching, counseling, and consulting to develop others
Choosing appropriate behavior for various work situations
Capitalizing on one's management style
Perception of self and others
Projecting self in positive ways
Understanding group roles
Relating to peers, superiors, and subordinates

Communication

Analyzing the intent vs. the impact of one's communication
Commanding attention
Using impact words and phrases
Talking on the telephone effectively
Delivering public speech or making a presentation
Talking to one person
Selling ideas to one or more people
Speaking as a meeting leader or conferee
Making sure your message is understood
Using visual aids and participative reinforcement tools
Transmitting ideas logically, concisely, and clearly
Getting profitable results from conferences and meetings
Writing letters that get results

Organizational "Savvy"

Tuning to the corporation's goals and expectations
Political strategies
Competitiveness/assertiveness/visibility as a means for promotion

Decision Making and Problem Solving

Identifying the problem in a decision situation
Risk taking
Analyzing the problem
Working in groups to make decisions
Defining and solving interpersonal problems
Tracking variances and knowing what to do about them
Setting goals and priorities
Dealing with value collisions in decision making
Identifying plausible alternative solutions
Projecting consequences of alternative solutions

Managing

Measuring performance and reviewing results
Delegating effectively to get things done
Planning
Understanding technical aspects of support systems such as computer language
Understanding of organizational principles and techniques
Using such techniques as systems analysis and design
Managing time
Establishing priorities in the work flow
Balancing the demand of work and private life
Preparing and presenting a budget plan

SOURCE: The American Management Associations. *Management development guide.* November 1976–April 1977. pp. 146-152.

Figure 3. Selected skills from AMA's course descriptions for management development.

course descriptions. The notable feature of these descriptions is that the skills are specific outcomes rather than "useful by-products."

Skills for Applying Broadly Usable Knowledge

Everyone processes a vast amount of knowledge in a lifetime. This involves a considerable amount of our time, and, as far as our careers are concerned, it should be time well spent. Obviously, all the programs we visited had increasing knowledge as one of their goals. Considering that we retain less knowledge than we are exposed to, it seems imperative that education and training programs give serious thought to teaching knowledge items that individuals can use in many occupational endeavors and to making students aware of the multiple utility of this knowledge.

The skills development programs just discussed all stressed the importance of acquiring knowledge associated with the basic skills (reading, writing, and mathematics). But individuals who are "knowledgeable" go far beyond that. We are not in a position at this time to delineate what it is they know, but we have some insight into the knowledge skills they have. Essentially, there are six that appear

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What knowledge do people need in order to enhance their occupational transferability?

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to contribute to occupational transferability:

- Ability to know where and how to access needed information
- Ability to commit knowledge to memory
- Ability to recall information accurately
- Ability to identify information needed for occupational tasks
- Ability to use knowledge in decision making and problem solving
- Ability to create new knowledge as a result of synthesizing existing knowledge.

Personal and Interpersonal Effectiveness Skills

All of the persons interviewed stressed that, in order to be occupationally transferable, individuals need to be skillful in demonstrating the personal and social characteristics that enhance job effectiveness. HIP refers to these characteristics as "work ethics," Fort Lauderdale calls them "skills to get and keep a job," and Denver calls them "personal characteristics for work."

These characteristics are described by the program people in terms of attitudes or skills. For the purpose of our discussion, one should keep in mind that *both* attitude and skill are involved. For example, interpersonal skills rank very high in the number of times they are mentioned. Obviously, these skills cannot be put to use unless individuals possess personality traits such as positive attitudes about self and others. Similarly, traits such as conscientiousness, responsibility, and independence are also mentioned frequently. It is clear that individuals cannot be said to have these traits unless they can demonstrate them on the job—and this requires a certain amount of skill.

Another distinction which may seem equally spurious is differentiating between personal and social effectiveness. Quite simply, it is our attempt to show that there are traits that benefit people when working independently and when working with others and that both kinds facilitate occupational transfers.

Figure 4 provides examples of personal and interpersonal effectiveness "skills." As you read them, keep in mind that the list for each organization is by no means complete. They merely are sample items gleaned from our notes on the interviews or from program materials. More than the specific items listed, however, these organizations recognize the importance of these skills for job performance. Job specific technical skills alone cannot ensure transferability.

A general trait that helps people throughout their careers and seems to be especially evident in job moves is vitality. It is sometimes referred to as an ability to grow. When individuals get trapped in jobs as a result of misperceptions and inability to deal with pressures, they show symptoms such as hostility, absenteeism, obstructionism, and lose "career energy." People who have career energy are creative and valuable workers. They have vitality that facilitates their adjustment to the new job.

Donald B. Miller (1974) has designed a Personal Vitality Program for IBM. He defines vitality as:

> . . . the desire and the ability, capacity, or power to perform effectively and vigorously in life and at work, and to gain personal growth and satisfactions from life and work. Vitality is winning at the game of life and doing it in the context of work. Vitality is being up to date. Vitality is being alive and receptive to new experience (p. 11).

It is quite apparent that individuals who demonstrate vitality will increase their potential for success in occupational transfers. Miller poses several questions in his "Personal Growth and Vitality Inventory" to help IBM employees determine their vitality levels. Answering these questions may give you insight into your potential for making a transition into a new job assignment: Is your image one of being turned on and tuned in? What is your physical/psychological energy level? What do you know about your motivations? What is your rate of change? Is change fun or are you fearful about it? How would you rate your ability to accept and use new ideas, concepts, or methods? Do you have a program of exercises for your senses, mind, and body? How independent do you feel?

Our last word on personal and interpersonal effectiveness skills comes under the category of putting words into action. Many of the items we have discussed here can be found in the philosophy statements of most schools. But so often it is little more than lip service. Schools do not make a concerted effort to develop these traits. They merely assume they will emerge.

The Denver and Mesa Verde programs are exceptions. We were impressed with their approach to ensuring that students will possess desirable personal characteristics for work. Everything about these schools—the curriculum, the teachers' attitudes and the rules of conduct—communicates it. Many opportunities are provided for students to develop self-confidence and independence. Students are expected to become responsible, dependable, and trustworthy and so they are treated that way. Cooperation, enthusiasm, and respect are developed through the teamwork relationship established between teachers and students. It is not at all unusual to see teachers and students exchanging roles. How else can students become leaders if they do not have a chance to lead?

Self-Analysis Skills

Bolles (1972) notes a most disturbing quality of many people in regard to job transferability—they are blind to their own skills. This is very evident in job interviews. Inexperienced workers conclude that because they "haven't done anything yet," they have no skills; and experienced workers conclude that the "only" skills they have are the ones they used in past work experiences. Highly transferable people on the other hand know their skills and their multiple occupational uses. They are not blind to their skills.

AMA

Motivating
Leading
Negotiating
Resolving conflict
Coaching
Counseling
Projecting self in positive ways
Relating to peers, superiors, and subordinates
Empathy
Asserting oneself

BET

Personable
Enthusiastic
Well groomed
Punctual
Cooperative
Dependable
Organized
Self-starting
Responsible
Caring and respectful
Leadership

HUNTINGTON BEACH

Getting along with peers
Providing leadership
Dealing with frustration
Using time effectively
Setting realistic goals

DENVER

Self-confidence
Initiative
Attitude
Originality
Reliability
Integrity
Persistence
Punctuality
Responsibility
Ability to work with others
Leadership

AT&T

Leadership
Helpfulness
Persuasion
Communicating with others about work assignments
Contributing to group efforts

ACT

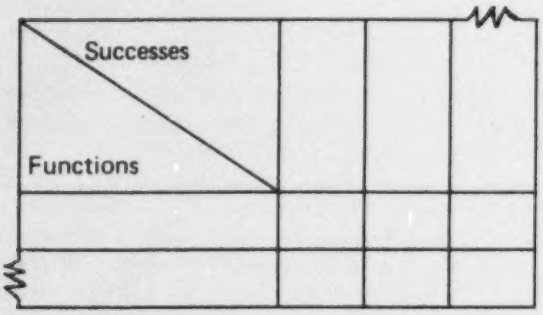
Reliability
Punctuality
Pride in performance
Cooperation
Teamwork
Loyalty
Responsibility to self and others

Figure 4. Personal and interpersonal effectiveness "sample ingredients."

So pervasive is the feeling that "people are what they do," that ordinarily when persons are confronted with the prospect of a move to a new and different job, they seem to become immobilized by thinking they have no skills to offer. This is especially noticeable when students take their first jobs and homemakers launch new careers. It is a particularly perplexing situation in that considerable evidence is accruing to show that persons continue to seek outlets for the abilities that motivate them—often in spite of the requirements of their jobs. While at first these phenomena seem to be at odds with each other, they really are not. At the basis of both is a lack of self-understanding. Successful job changers apparently do not get into these binds. They maintain a constant assessment of their skills and abilities and know when to make the most of them in their work. When they have to make a job move, they can quickly take stock of their skill repertoires and can apply them to do new work. Thus, an overarching characteristic of people who make successful job moves is that they seem to have an acute awareness of who they are, what they can do, and what they want to achieve in their careers.

Columbia's Deeper Investigation of Growth (DIG) program recognizes that the development of skills contributing to occupational transferability occurs over a long period of time. They also observe that the preferences and priorities of individuals determine which skills are favored or rejected for continued use or development. The results of this favoring or rejecting process apparently fade into the unconscious. DIG's main purpose is to help individuals develop self-analysis skills by discovering the pattern of skills and characteristics they have developed as a result of achievements that have produced personal success and satisfaction. DIG's director indicates that they use the "Socratic Method," that is, questions designed to elicit explicit expressions of something implicitly known.

Through this "success factor analysis" DIG participants recognize emerging patterns of skills and personal characteristics. The fact that these skills and characteristics are preeminent and recurring suggests they are transferable, and hence, the participants continue to seek work which complements their success patterns. The analysis is begun by constructing the following grid:



Participants list all their outstanding successes across the top of the grid. They are then asked, "What was the one thing you *did* well that made each activity satisfying?" The answers to this question become functions that are listed in the left column. After this exercise is completed, participants indicate the frequency of each function by checking each success in which a function was involved. The frequency of a function gives it greater prominence in a person's listing of skills. An example of one participant's list follows:

- Research and organizing
- Visual planning
- Originality
- Problem solving
- Persuasion
- Leadership
- Decision making
- Working under pressure

Participants are then guided to find occupational applications for their unique combination of skills and characteristics which now have become the heart of their resumes.

The DIG resume is a good example of basing a practice on a notion of transferability. Because these individuals have little or no idea of the occupations they might best enter and because they are aware that most Columbia graduates do not enter an occupation that is directly related to their educational preparation, the resumes highlight widely applicable skills and characteristics with clear examples of accomplishments associated with their development.

The hierarchy in which the skills and characteristics are arranged in the resume gives insight into occupational possibilities but does not limit individuals as many traditional resumes do. For people with little work experience or those who want to enter a new and different occupation, placing the emphasis on widely applicable skills and characteristics seems to be a successful way to communicate the preferred work activities of an individual and also enables employers to focus on pertinent skills and characteristics that tend to become lost in a mere listing of work history.

Developing skill in self-analysis is also an important feature of the Regional Learning Services' Career Counseling Program, Lawrence Livermore Laboratory's (LLL) Career Planning and Development Program, and IBM's Personal Growth and Vitality Program. Individuals in all three programs are concerned with finding direction for their careers. Because they have "lost" an awareness of their abilities, they have lessened their potential for occupational transfers. All three programs help these individuals become competent in identifying their skills and the motivation to revitalize their careers.

RLS uses a variety of techniques to help their clients become skillful in recognizing their competencies and using them to get a job. One technique involves the use of *The quick job-hunting map* (Bolles, 1975) which is designed to help people identify "functional-transferable skills." These skills are then combined to form an ideal job objective that can be compared to jobs in the market place.

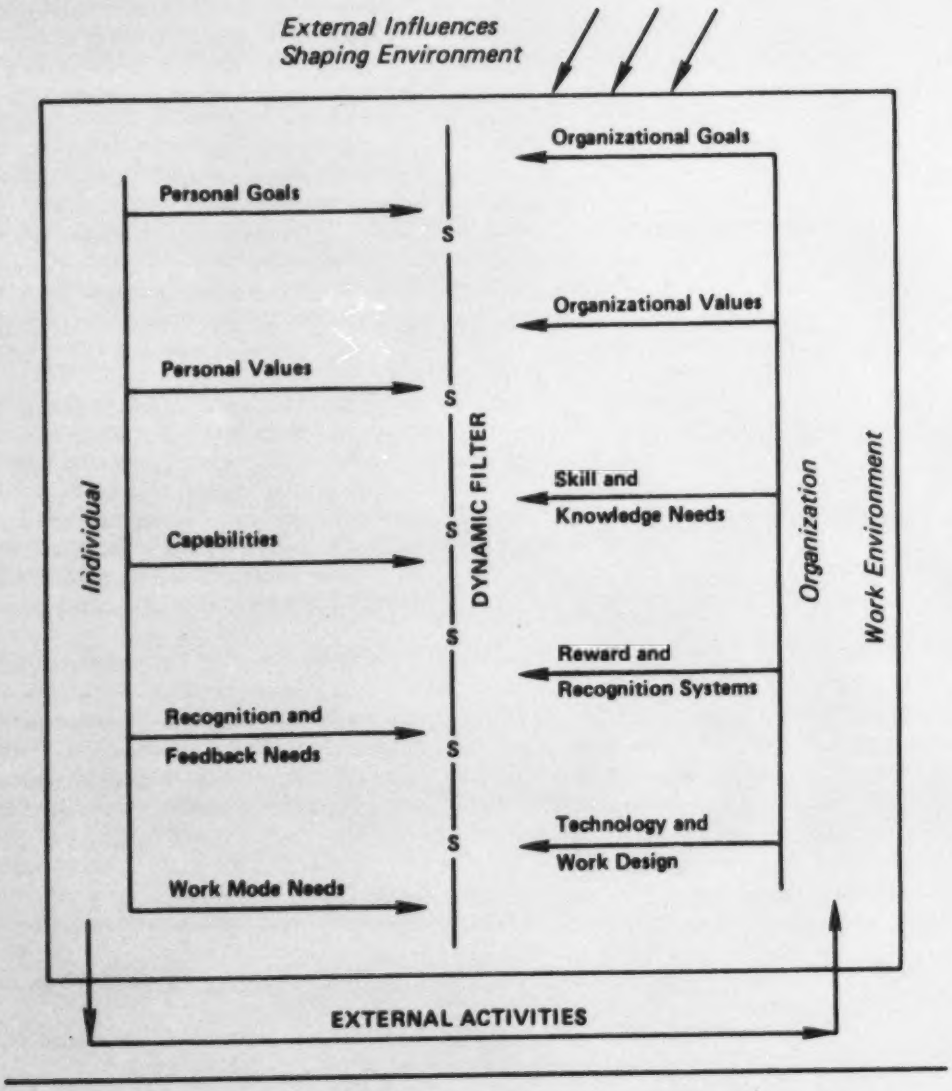
Lawrence Livermore's program (1976) assists employees in using knowledge gained from self-analysis activities in making job changes. They state that a "good change will usually result if you create the opportunity to design some aspect of the potential job to fit your needs." Such an approach not only allows you to implement the skills that you have clarified and really motivate you but also benefits your employer because of your increased effectiveness. This ability to redesign your work can come about only if you have a thorough understanding of what you have to offer.

IBM also incorporates the concept of work redesign into their program. They reason that increased self-understanding builds confidence which enables individuals to represent themselves more effectively and to achieve better congruence between themselves and the organization. Miller's diagram (see Figure 5) demonstrates this interface and shows some of the influences effecting congruence. Miller indicates that it is important for *both* management and the individual to work at this math since both have a stake in improvement.

Hence, continuous awareness of skills and knowing how and when to employ them should contribute significantly to transferability among jobs.

Career Management and Productivity Skills

Viewed organizationally, successful occupational transfers increase the productivity of the organization. Viewed individually, successful transfers mean not only finding jobs that contribute in significant ways to career goals but also being able to make the new work experience personally rewarding. To do this requires skill in planning and managing your own career.



SOURCE: Miller, D. B. How to improve the performance and productivity of the knowledge worker, *Organizational Dynamics*, Winter 1977, p. 76. (Reprinted by permission of the author.)

Figure 5. The employee/organization interface.

An increasing number of organizations are beginning to recognize the importance of developing these skills. They see the need for employees to take on major responsibility for career planning so they will be able to manage change in their careers. So often, workers suffer from the delusion that the company will take care of them and are crushed when they must adjust to a new work assignment within the company, or to termination or layoff. These people need considerable assistance when they have to find a new job and get started in it.

IBM is concerned about assisting in internal changes. The IBM Personal Vitality Program is based on the assumption that career change involves personal responsibility. Using a self-analysis approach supported by educational programs, it leads employees to value the concepts of conscious, rational career planning and taking responsible control of the management of their careers. Figure 6 illustrates some of the questions employees respond to in order to make an action plan. This strategy not only makes individuals aware of career change in their lives but provides guidance in taking appropriate steps for making occupational transfers constructive events in achieving career goals.

LLL's pilot project in career planning assists employees in evaluating the realism of their career actions and plans. The program emphasizes self-assessment as a basic step in dealing with voluntary and forced change in career direction. Some of the broad questions employees explore are:

How do I get out of this box? (i.e., being locked in by over-specialization)

What do I want to do?

What do I know how to do?

Where do I want to go?

What do I need to get there?

How can I tell how I am doing?

As a result of this program, employees acquire skills in career management. These skills appear to be instrumental in assisting individuals making job moves to transfer their job skills.

What does managing your career during occupational transfers involve? Moving into a new position, especially one which is quite different from others held, requires a certain amount of adjustment. Job transfers focus considerable attention on new workers, whose skills are put to a test by supervisors and coworkers. Similarly, the new workers are anxious to be accepted and want to prove that they can do the required work and perhaps are looking for ways to redesign the work to suit them. The degree of success that they experience during this period is dependent upon skills which expedite this adjustment period and establish this person as an accepted member of the work group. "Success" and "acceptance" here have no specific meaning in that the elements that constitute them are variable. What may work for one person may not for another. What may work in one situation may not in another.

The two terms that appear best to sum up this work adjustment behavior are flexibility and adaptability. Both words, of course, imply behavioral responses to a changing array of human and situational demands, real or imagined, in the new job environment. Successful occupational moves, then, are not only dependent on being able to transfer previously developed occupational skills to the new job and demonstrating personal and social characteristics to ensure continuous group

Motivation for Change

What is your desire to change? Are you reasonably satisfied with yourself, your job and your status? If not, what kind of change do you want?

What was the last major change in your life? Did it happen to you or did you do something to bring it about? Was it a change for the better?

What's your change history? Do you make frequent changes? Do you have problems making changes? Do you feel changes are generally good?

Are your family, friends, and management supportive of change in you? Do you feel boxed in and limited by pressures from others?

What can you do to improve your prospects for positive change?

How locked in are you to your career or job? What conditions would cause you to accept a recycle job—one with lower prestige? Do you see value in recycling people?

Life and Career Direction

Have you established goals and objectives in the past? What is your track record? Do you usually achieve your goals? Can you achieve your goals in the context of the organization's goals?

What is your current (one year, five year) plan? What actions are you taking to support any plan you may have, however, formal or informal?

What is your score on managing your life and career? Are you able to translate plans and goals into accomplishment? What are the special life management techniques you've developed.

How has your perspective relative to goals changed over the last five years?

Where are you in your total life cycle? What is most influential in your perspective about your present position in your life? Do you see this position as primarily a position with respect to career or with respect to age, with respect to ability or self-realization, or some other criteria such as family life?

SOURCE: Abstracted from Miller, D. B. *Personal growth and vitality inventory.* San Jose: IBM Corporation, General Products Division, August 1974. pp. 15-18.

Figure 6. Selected items from IBM's "Personal Growth & Vitality Inventory."

membership, but it also requires skills which facilitate a smooth transition and launch the new worker in the most favorable light. Some have referred to these as navigational skills or adjustment skills. Regardless of the name, they are useful throughout one's career, but come into play very strongly during an occupational transfer. Let's examine a few of these.

One counselor at RLS noted that people who make successful occupational transfers have a talent for "selling" themselves and getting ahead. It's an awareness of self and what the organization needs. Some refer to this as "organizational savvy" or an ability to know how you fit into the organization, who the power people are, what obstacles can get in your way, how the reward system works, what others expect of you, how to get what you want out of the job, and how to keep from getting boxed in. It should be relatively clear from this list, which is not limited to these items, that adjustment means more than passive accommodation to the organization. To be sure, that is one form of adjustment, but adjustment is used here also to include getting the organization to adjust somewhat to your career goals.

Another transition skill is the ability to "unhook" from previous relationships, experiences, and learning. Don Miller (IBM) noted that it is painful to separate from "what is you." An example of this is "content blocking" when individuals are incapable of using their skills with new content. For example, "organizing" is said to be a widely applicable skill. But an individual who moves from organizing activities for a family to organizing work activities for a staff of secretaries may not be able to transfer the planning skills if he/she cannot make the content shift from family activities to secretarial activities. Miller feels that persons who can "unhook" their skills will be more likely to make successful occupational transfers.

Learning to manage your career comes long before you take on your first job. All the schools we visited know this. They spend a considerable amount of time guiding students in developing career goals and planning learning experiences to achieve them. The Huntington Beach "Career Planning Folder" is a good example of how students can synthesize many of their career exploration and skill development activities in order to plan and manage their careers. In addition to keeping a log of all career related activities during high school years, data are also recorded on:

- Career goals
- Favorite subjects and occupations related to them
- Self-information
- Skills acquired
- Courses completed
- Post-high school plans

While this document appears to be more than adequate to accomplish its purposes, we would have liked to have seen some portion of it devoted to making students more explicitly aware of the transferability of "skills acquired" to a variety of jobs. It seems to be only a step away from doing this.

TENTATIVE AND EMERGING CONCEPTS

The principal objective of these visits was to gain a clearer understanding of the competencies required to perform a variety of tasks in various occupational roles as well as a better understanding of how people develop these competencies. Engaging persons in a discussion on this topic is easy because, at face value, transferability appears to be a very desirable "commodity." In that regard, it is very much like flexibility, adaptability, and other general traits. As long as the discussion stays at a very general level and generalities are accepted as examples of transferable skills, the discussion flows nicely. But operationalizing the concept requires more specificity. It is in trying to gain the specificity or clarity that the dilemma lies. What one looks for makes an enormous difference.

Without exception, we believe that all the programs visited concern themselves with occupational transferability. However, the range of emphasis varies widely from using it as a central element to including it as a necessary but peripheral part of the program. It is impossible at this time to make generalizations with confidence about occupational transferability or how to go about developing it. What is clear though is that there are multiple variables affecting the manner in which a person deals with career change, whether the change is between related jobs or very dissimilar ones.

Observations made during the program visits stimulated ideas that may contribute to a conceptual framework for developing occupational transferability. The statements that follow were not made by the persons we interviewed; they represent our first attempt to formulate underlying concepts.

PROPOSITION 1: Occupational transferability is a dynamic aspect of human development.

Occupational transferability is developmental in that there is a cumulative effect of an individual's experiences including such things as what has been learned, what skills have been mastered, how successful changes have been, and what attitudes have been developed toward change. Occupational transferability is also dynamic. The manner in which transfers are made has a great deal to do with where individuals are in life. Novice workers, mid-career changers, and persons nearing retirement have unique needs and motivations which affect those changes. These needs and motivations must be taken into consideration. Similarly, the preferences and priorities of individuals determine which skills and characteristics are favored or rejected for continued use and development even though the individual may not be aware of the reasons for doing so. As a result, each person develops a unique combination of skills and a personal style of occupational transferability.

PROPOSITION 2: An individual's repertoire of skills is pliable.

This means that skills can be brought together in certain combinations for one job and that they can be regrouped and reshaped to fit other jobs.

While we have discussed at great length the many commonalities of jobs, it is also very apparent that jobs do vary in the scope, degree of use, and priority of skills required to perform them. Individuals who are sensitive to these differences increase their occupational transferability by responding with the right skills at the right time in the most appropriate ways depending on the work tasks they are performing.

PROPOSITION 3: Because an individual possesses a skill required in many occupations does not necessarily ensure its transferability.

Many persons believe that if individuals can, for example, sell, teach, or manage, they can sell, teach, or manage anything. While there seems to be some truth to this, other important variables (knowledge of the area, appropriate working styles, credibility, and organizational climate to name a few) may be overlooked. These other variables may impinge on the success of such transfers. Another common view is that being able to communicate well is a highly transferable skill. But does communicating well as a camera salesman mean the same thing as communicating well as camera repairman?

PROPOSITION 4: Individuals are more likely to develop skills for occupational transferability when their educational programs include those skills as part of the explicit curriculum.

Educators are unlikely to deny the value of their students becoming occupationally transferable. In fact, we are reasonably sure that most educators could point to several examples of how this is happening in their schools. But when one looks at their curricula, their course guides, or anything written about their programs, the most one can find on this subject are some global goals related to general preparation for the world of work. Very little attempt is made programmatically to develop these skills. Academic programs, in particular, often belittle the pragmatic concerns associated with work and many vocational programs are obsessed with skill preparation that is unnecessarily circumscribed. Consequently, if skills for occupational transferability are developed, it is only because they have in some way inadvertently crept into the curriculum.

What does all this mean? Essentially, occupational transferability is, at best, a serendipitous outcome of most educational programs. At the very worst, some programs force students into occupational "straight jackets" by missing every opportunity to show students the multiple applicability of the skills they are developing. In either case, many students are likely to be the losers.

It is our contention that knowing what you are doing in terms of affecting students' occupational transferability can make a difference. Skill development must provide concrete examples of the multiple application of skills and practice in applying them in a variety of real work experiences. *Most importantly, awareness of the occupational transferability of those skills must be a principal learner outcome.*

All schools, not just vocational schools, need to make a conscious effort to make students aware of the occupational transferability of their skills. Schools that do not attend to this responsibility, and particularly those that shun it, can cause students to be ill prepared for the occupational changes nearly all are sure to face.

PROPOSITION 5: Developing skills in a variety of contexts enhances occupational transferability.

Skills and attitudes, per se, no matter how widely useful they may seem, will not ensure occupational transferability. A great deal needs to be said for an individual's experiences with different work environments. Greater familiarity with different work contexts and having had many opportunities to try out one's skills in them seems to improve a person's chances of succeeding on a new job. This not only provides more work options but also seems to increase the likelihood that a new and different work environment will not be as threatening or debilitating.

An example of "context shock" is the student who leaves school to start a job. Despite having had substantial school preparation related to the job, the student becomes disoriented in the new

environment. A Huntington Beach counselor explained it this way. "Students don't know how to communicate their competencies. For example, students who get their training from teachers of machine trades often don't speak the same language as machinists."

What this seems to say is that the school environment encourages teachers, even if originally from the trades, to talk as teachers are *supposed* to talk. If this is true, then it becomes clearer why students without real work experience are often at such a disadvantage when they make the transition from school to work.

Three of the programs were particularly concerned about the contexts in which skills are learned and practiced. While the HIP, ACT, and BET programs devote much of their time to developing job skills, they also make students sensitive to work environments.

Becoming familiar with industrial environments and having the opportunity to try out school skills in real work situations is a very important benefit of participating in HIP and ACT. Minority students represent a large percentage of their participating students. These programs view helping students to become oriented to industry as one of their principal goals in preparing students for the transition from school to work. Students become more mature and their occupational transferability is enhanced by acquiring a variety of job skills and useful occupational information, by becoming acquainted with the industrial expectations for job performance, and by developing mature work attitudes, values, and interests as a result of the change of environments from school and home to work.

Students in the BET program prepare for careers through the various courses of the high school curriculum and in-school work experiences of the various business enterprises located on the campus. Throughout their high school years, students receive many opportunities to use their skills in a variety of contexts. Math skills, for example, are required for many of the businesses in the school's "shopping mall." By providing frequent and varied occupational contexts for students to practice their math skills, Mesa Verde contributes significantly to the occupational transferability of its students. The Mesa Verde program also provides off campus experiences for skill development. These additional "real world" contexts include work experience and other natural settings for learning.

While offered as only one of the school's programs, BET has involved approximately 80 percent of the students. This speaks well of the program since BET participation is voluntary and also speaks well of the students for recognizing the benefits this program contributes to their career preparation.

PROPOSITION 6: Individuals must understand the multiple occupational utility of their skills.

So often individuals are unaware of their skills and how they can be of value in occupational transfers. This lack of awareness leads them to conclude that they have little or nothing to offer to the job market when a change is imminent. Individuals have defined their job competence in terms of what they were paid to do. This seems to be one of the reasons why students are so aimless when they look for their first jobs. Another example of this is workers who see their skills only in terms of their job descriptions. It never occurs to them that they have skills that are not on that piece of paper. It never occurs to them that their skills can be detached from the job situation and used in many other circumstances.

PROPOSITION 6: The values-orientations of employers and the work environment itself determine to a great extent which skills can transfer and which cannot.

In our discussions of how people make successes of their job transfers, several of those interviewed alluded to obstacles external to the work to be performed and to the workers themselves.

Certain employment practices and the beliefs they are founded upon seem to be clearly at odds with employees' attempts to use their potentially transferable skills. While these barriers often surface at selection time, many continue to operate after employment is secured.

The most prominent among these factors is the requirement of credentials that often have little to do with the work to be performed. Among these credentials are degrees, diplomas, vocational training, union membership, and other tangible evidence that ensures that an individual has passed over traditional hurdles and is a member of "the group." These "tickets" to employment presently have great influence on personnel directors' decisions. According to Norine Stritter who interviewed workers and personnel directors in the Fort Lauderdale area, these tickets do not guarantee that a person has the skills to perform the job. But without these tickets, individuals have few opportunities to get the work experience which is often required for most jobs, and other experiences in which they have developed the needed skills are either ignored or devalued. Many employers simply refuse to acknowledge skills developed in non-certified education and work experiences such as avocations, volunteerism, and homemaking.

RLS (1975) launched an attack on this problem through their "Home Management and Human Service Competencies" study. They observed that:

> Although there have been several studies demonstrating the value of work performed in the home, society generally discriminates in favor of paid jobs—not counting homemaker as part of the work force and most highly valuing skills which it must concretely reward (Emphasis supplied) (p. 2).

The results of RLS's efforts were the identification of knowledge and skills acquired through home management experiences and recommended criteria for granting credit for those experiences. Consequently, RLS has made a constructive step in changing the perceptions and values of employers so that they recognize the wider range of possibilities individuals have for transferring their skills. However, until we can "certify" that individuals have developed skills in seemingly unrelated experiences to the jobs they wish to undertake, claims to such skills will not be met with much credibility.

The work environment to which a person moves determines which skills transfer, so an individual who attempts to employ skills and characteristics not needed and consequently not rewarded often experiences "negative transfer." Skills possessed but not used result in "zero transfer" and possibly atrophy. Because of the homeostatic nature of most organizations, individuals who have been in training, for example, often meet resistance to their newly acquired skills.

PROPOSITION 8: The success of an occupational transfer is dependent upon the nature of the transfer and the implications it has for the individual's career.

Individuals of any age facing a change in careers are called upon to reassess their skills and to determine how to bring them into play in the new job. While individual responses to career changes seem to be affected by previous experiences, especially those connected with occupational change, the success of a move from one job to another is not guaranteed by previous successful moves. Bruner (1969) notes that there are "plights" that are neither solved nor by-passed by being adjusted. Occupational transfer seems to be one of them. Job changing is a recurring challenge. It can involve upgrading, downgrading, lateral moves, and major or minor shifts. Each type of move may or may not be met successfully. It depends to a great extent on the kind of transfer individuals encounter and their readiness to make those moves. To wit: What will three abrupt job moves in one year mean to a younger worker? An older worker? What will a promotion from a non-management job to a management job mean to someone who has worked for the company for two years? Twenty years?

RECOMMENDATIONS FOR FUTURE RESEARCH AND DEVELOPMENT

Our program visits increased our confidence in pursuing strategies for developing skills for occupational transferability through education and training programs. However, much still needs to be done. The following are suggestions for research and development that we feel are needed for making educational enterprises more responsive to the needs of individuals whose careers are likely to be characterized by change.

Recommendation 1: Strategies are needed for redesigning academic and vocational education curricula to provide for the development of occupational transferability.

Many of the present strategies for laying out the scope and sequence of learning have little to do with the career needs of youth. Traditionally, curriculum design concerns structuring knowledge and skill development on the principle of proceeding from the simple to the complex. Hence, teachers see their job in terms of getting students to the next level of complexity. The ultimate use of the knowledge and skills is merely incidental to that process. If first-graders get to second grade and high school strudents graduate or go to college, schools see their job as being done.

This paradigm is totally inadequate for systematic development of occupational transferability. It leaves too much to chance. If occupational transferability of skills is to be a central goal of schools, then specifications for developing it will have to be incorporated into the design of all their curricula.

Recommendation 2: Innovative instructional techniques designed expressly for developing occupational transferability are needed.

While we saw many instances where skills for occupational transferability might be developed, we were chagrined to discover that little attention had been given to instructional techniques. Most of the effort has been given to reorganizing the students' programs. Perhaps that is sufficient and whatever way teachers want to teach will not make a difference. But we are not inclined to think so. We are concerned that most teachers are not as unusually gifted as those we observed and will need preparation to teach for occupational transferability. They will want to know how it is done. These techniques not only must be sound but appealing. Instructors will have to be motivated to use them.

Recommendation 3: More needs to be known about the conditions that foster and impede the development of occupational transferability.

We began to sense very strongly that the conditions under which individuals develop their skills affect the transferability of those skills. As we progressed in our program visits we became aware of some facilitating and constraining factors. However, our evidence is rather tenuous. A systematic study is needed.

The starting place for this study would have to be the people who conduct programs such as those we visited. Much of the programs' success has to be directly attributable to them, that is, to their competence, their attitudes, their vision, and their drive. They are committed to helping

people make the most of their talents. They believe people are resourceful, resilient, and capable of learning. They know how to provide a supportive environment for growth and learning. They intuitively see the need for learning about skill application by experiencing a variety of work assignments in real work settings. They do not merely provide what they think is "good preparation" for careers, they also help others to know why it is good preparation.

The program people mentioned several obstacles that need to be overcome. Many states have mandated that students must be prepared for an entry level job. Hence, prevailing attitudes favor specific job training and tend to eschew forms of general vocational preparation. Also, employment selection practices place a high priority on job specific skills gained in previous employment and often overlook the transferability of other skills.

Recommendation 4: More reliable information is needed about skills required for jobs and skills developed by schools so that greater congruence of skills can be established.

All the school programs we visited attempted to become more knowledgeable about skills required for jobs by gathering, in one way or the other, "expert testimony" from job incumbents and employers. Most found this to be a tedious and difficult task. Worse still, they were very uncomfortable about the reliability of that information. One interviewer found it necessary to interview many job incumbents for each job because she found that workers have difficulty identifying and describing the skills required in their jobs. Also, she found considerable variability among the job descriptions. In many instances, she interviewed personnel directors to get their descriptions of the jobs, and found that they presented still another picture of the job requirements, often mentioning qualifications like diplomas and training certificates which the job incumbents claimed were not relevant. Then, after finally identifying several agreed upon competencies for an occupation, program people were confronted with the equally difficult task of matching instructional objectives with the job competencies. Even though a few of the programs we visited were relatively successful in accomplishing these tasks, we are sure that systematic, empirical studies leading to better congruence of school skills and job skills would be welcomed. These studies could build upon the work of the Generic Skills Project (Smith, 1973).

Recommendation 5: Students need monitoring and planning devices to help them keep track of the skills they are developing and relate those skills to a variety of occupational possibilities.

The period of skill development can be long. Students who have yet to undertake gainful employment are likely to lose track of the skills they have developed and how those skills are related to potential employment possibilities. We saw tremendous potential in Fort Lauderdale's computerized system for monitoring skill development and in Huntington Beach's Career Planning Folder. We would like to see what could be done with techniques such as these using occupational transferability of skills as the central organizing feature.

Recommendation 6: Counseling strategies are needed to meet the individual's life-long need for interpretation of skill transfer as it relates to new employment ventures.

We were very impressed with what is being done in this area by the programs at Columbia University, IBM, RLS, and LLL for young and middle aged adults and by the National Center for Career Life Planning Program (1976) for older workers. These programs are exemplary. What is needed, though, is their counterpart for adolescents, especially those who are still in school. We see no reason why the same principles that work in the programs mentioned above cannot be incorporated into counseling programs for youth. Their need is no less—perhaps it is even greater. This means an

increased commitment to and from guidance and counseling personnel in the development of occupational transferability, especially at the high school level.

Recommendation 7: Evaluation strategies are needed to assess the effects of learned skills on successful job moves.

Most of the programs have an evaluation component, but, unfortunately, none has collected data that support the contention that its clients have been more successful in occupational transfers as a result of participating in the program. A few programs had conducted surveys to find out their clients' estimations of the worth of their programs. Not surprisingly, they were judged to be very worthwhile. However, following up on clients to see if they are effective in a succession of job moves as a direct result of skills gained in the program is yet to be done. The program people see this as being a very ambitious undertaking. Aside from the costs which would be prohibitive in most cases, it will be very difficult to control the intervening variables associated with the lapses in time between the training and the subsequent job moves.

Recommendation 8: Assessment instruments are needed to help employers determine the transferability of job candidates' skills.

Our discussions on employment selection procedures with AT&T's Employment and Movement division and the Denver Transfer Bureau personnel forced us to face some of the less pleasant realities of life. While these AT&T people do consider occupationally transferable skills in the selection process, it does not appear to be very practicable at this time to use them as the principal criterion. Many factors impinge upon the selection process, and the reasons for selection and non-selection, now more than ever, must be defensible. Without some means of measuring or certifying transferable skills, selection based principally on them would be untenable.

Recommendation 9: Occupational information documents need to highlight the transferable skills and characteristics that are needed in each occupation.

Most written occupational information is based on a simple principle: informing people of the *particular* skills and knowledge needed for occupations. Once individuals become aware that their skills *are* transferable to many occupations, they want to know the relative worth of these skills to specific occupations. Existing materials are not set up to provide that kind of information. For example, suppose organizational skills are your forte. How do you find out which jobs require those skills? Surely, you cannot read all the job descriptions that exist. One simple way around this problem would be to provide an index which could list transferable skills and occupations that draw most heavily on each one.

Recommendation 10: An "awareness campaign" is needed to join employers, educators, and the general public in a common understanding of the transferability of skills among occupations.

There would be considerable risk in directing schools to develop programs based on the transferability of skills among occupations if employers and others did not see the value of that type of preparation at critical times such as employment selection, entry into training programs, job placement, and promotion. What is needed is a common understanding of these skills and a suitable means of communicating about them. Also, we will have to let go of old ideas regarding how we think about people and the work they do.

SUMMARY

Our awareness and appreciation of practical efforts to prepare individuals for occupational change has been greatly enhanced as a result of our program visits. The opportunity to discuss the development of skills for occupational transferability decidedly enabled us to clarify our thoughts on that topic. The interchange of ideas between our staff and the program representatives has been highly productive. But it is only a beginning. We feel we have a better grasp of the subject, but it is clear that further work is needed in defining occupational transferability. We also need to know with greater certainty what educational factors affect the development of occupational transferability, and we must identify ways in which such factors can be minimized or maximized as the case may be.

Programmatic efforts to assist individuals in becoming occupationally transferable must operate in a dynamic relationship to the intricacies of the job market. These efforts must include an awareness of such things as current and projected labor market demands, typical aspects of major and minor occupational transfers, and the seemingly limitless number of consequences that can arise in a job transfer depending upon the individuals involved. While it might seem that such matters would not be important to those responsible for developing transferable skills, quite the opposite seems to be the case. A very striking similarity across all of the programs we visited relates to this point. While the programs took students' future career goals into consideration, they did so in the context of current labor market realities.

Finally, the five areas of skill development for occupational transferability mentioned in this paper have implications for more than training methods. They also call for means of identifying skill potential, measuring skill growth, and evaluating instructional strategies aimed at skill development. These all will require the construction of good measures and good measurement practices.

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PROGRAM SCENARIOS

PROGRAM	ADULT COMPETENCY EDUCATION (ACE)
ORGANIZATION	San Mateo County Schools 609 Price Avenue Redwood City, California 94063 (415) 364-5600 x4234
DIRECTOR	Joe Cooney ACE Project Director
PROGRAM TYPE	Adult Basic Education
DESCRIPTION	ACE is a federally funded adult basic education project that prepares its students for the math and communication skills required by the most common entry-level jobs in the San Mateo area. It is a literacy program that adds vocational meaning to the academic curriculum. Students are instructed in the mathematics, reading, and writing skills needed to function on the job. The design of the program involves an analysis of job competencies in terms of the basic skills required to perform them. Participating students, after selecting a job, review the competencies required and plan their program. Once skills are mastered, they are recorded on the students' "competency profiles" until all are completed, and then students are certified as ready for job specific skill training.
PERSONS SERVED	Adults
PERSONS INTERVIEWED	Joe Cooney ACE Project Director
INTERVIEWERS	Richard J. Miguel Allen A. Wiant
DATE OF VISIT	May 2, 1977

PROGRAM	ADVANCED CAREER TRAINING (ACT)
ORGANIZATION	Rockwell International 12214 Lakewood Boulevard Downey, California 90241 (213) 922-2967
DIRECTOR	James J. Haun ACT Project Director & Corporate ACT Representative
PROGRAM TYPE	Experiential Work Education
DESCRIPTION	ACT is the nation's largest industry sponsored education program. Its purpose is to fill existing educational voids by bridging the gap between academic classrooms and gainful employment in industry. It does this by providing students from local participating high schools with job skills and work attitudes that give them a competitive edge in the employment market. ACT students, 70 percent of whom are from racial minorities, attend two hour courses twice a week for a semester at the Rockwell facilities. A principal outcome is that many ACT students have been hired by Rockwell and other major industrial concerns. Their experience as new employees has been far more successful than students who have not participated in ACT. More than 7,300 students have been participants. Five divisions of Rockwell International in the Los Angeles area sponsor ACT classes.
PERSONS SERVED	Students from 50 surrounding high schools
PERSONS INTERVIEWED	James J. Haun ACT Project Director
INTERVIEWERS	Richard J. Miguel Allen A. Wiant
DATE OF VISIT	April 28, 1977

PROGRAM	BUSINESS ENTERPRISE TRAINING (BET)
ORGANIZATION	Mesa Verde High School 7600 Lauppe Lane Citrus Heights, California 95610 (916) 726-6616
DIRECTOR	Susan Brown BET Coordinator
PROGRAM TYPE	Career Preparation
DESCRIPTION	Mesa Verde High School is a career education high school. As an elective, it has developed a Business Enterprise Program to prepare students for success in the employment market by providing them with business knowledge and experience. BET develops these skills through multi-curricular product and service activities in ongoing commercial ventures both on and off campus. An interesting feature of this program is the operation of a "shopping mall" on the school's premises in which students have many opportunities to apply skills and knowledge from various courses to a variety of work experiences. Students operate retail stores, recycling shop, restaurant, printing and photography shop, accounting agency, construction company, and a media corporation. Upon completion of training in any of these enterprises, students receive competency certificates which are evidence of acquiring entry-level skills.
PERSONS SERVED	High school students
PERSONS INTERVIEWED	Napoleon B. Triplett, Principal Susan Brown, BET Coordinator Carolyn Dodge, Support Services Director Linda Holmes, Curriculum Director
INTERVIEWERS	Richard J. Miguel Allen A. Wiant
DATE OF VISIT	May 5, 1977

PROGRAM	CAREER EDUCATION CENTER PROGRAMS
ORGANIZATION	Career Education Center 2650 Eliot Street Denver, Colorado 80211 (303) 455-5966
DIRECTOR	Irving Moskowitz Principal
PROGRAM TYPE	Secondary school—career preparation
DESCRIPTION	The Career Education Center offers one semester courses to all students attending Denver high schools. Most of the courses are geared to specific occupational skill development; however about 40 percent of the students are planning to further their education in the areas of fine arts and the professions. The entire occupational curriculum is individualized, self-paced, competency-based, and practical. Students get a competency certificate which lists specific skills mastered. The certificates for all courses list skills common to many occupations.
PERSONS SERVED	All Denver students in grades 10-12 are eligible.
PERSONS INTERVIEWED	Irving Moskowitz Principal Val Sena Supervisor Support Services Eloise Lee Supervisor Pupil Services Thomas Manion Supervisor, Occupational Programs Raymond Lehr Head Teacher Construction Donald Taylor Program Coordinator/Teacher Fine Arts & Academic Programs
INTERVIEWERS	Richard J. Miguel Allen A. Wiant
DATE OF VISIT	December 14-15, 1976

PROGRAM	CAREER LIFE PLANNING
ORGANIZATION	The National Center for Career Life Planning American Management Associations 135 West 50th Street New York, New York 10020 (202) 586-8100
DIRECTOR	Patrick J. Montana President, NCCLP
PROGRAM TYPE	Career guidance
DESCRIPTION	The Nationa Center for Career Life Planning, a division of the American Management Associations, is dedicated to promoting career opportunities for able older Americans. NCCLP is concerned with the reentry problems most older persons face as they are caught up in forced early retirements, layoffs, and firings of workers over forty. In order to capitalize on the talent, experiences, and wisdom of these individuals, NCCLP is developing strategies for assisting older workers to recognize careers in which they can use their skills, studying ways in which work can be restructured to accommodate older workers, and promoting a constructive attitude about aging and retirement to counter the prevailing negative attitude.
PERSONS SERVED	Workers over 40 years of age
PERSONS INTERVIEWED	Patrick J. Montana President NCCLP George Davenel Vice President NCCLP
INTERVIEWERS	Richard J. Miguel Allen A. Wiant
DATE OF VISIT	December 2, 1976

PROGRAM	CAREER PLANNING AND DEVELOPMENT
ORGANIZATION	Lawrence Livermore Laboratory P. O. Box 808 L-428 Livermore, California 94550 (415) 447-1100
DIRECTOR	Marlys C. Hanson Training Manager
PROGRAM TYPE	Career counseling and development for employees and managers
DESCRIPTION	The Career Planning and Development program at LLL assists employees in developing control and direction of their careers. This program originated as a result of a massive lay-off in which many employees were found to be in need of assistance in recognizing how they could use their skills in other careers. Today the program has many purposes, among them, providing guidance to the many employees who are contemplating career changes within LLL and elsewhere. By helping employees to recognize their skills and the many uses of them and to develop career management skills, LLL feels that they have increased the productivity of their workers. Managers and supervisors are also counseled in improving effectiveness of using work assignments to develop skills and thus promote career progress. A variety of continuing education and training programs also provide opportunity for continued skill development.
PERSONS SERVED	All LLL employees
PERSONS INTERVIEWED	Marlys C. Hanson Manager Training
INTERVIEWERS	Richard J. Miguel Allen A. Wiant
DATE OF VISIT	May 3, 1977

PROGRAM	COMPETENCY BASED MODEL
ORGANIZATION	Huntington Beach Union High School District 5201 Bolsa Avenue Huntington Beach, California 92647 (714) 898-6711
DIRECTOR	Donald Averill Director, Career Education
PROGRAM TYPE	Career Education
DESCRIPTION	This competency based model enables high school students to acquire basic job competencies for initial job entry. These competencies have been identified with the assistance of community advisory committees, teachers, and counselors. Using a validation approach, students are issued "Certificates of Competency" upon achieving skill competency levels required by their chosen entry-level jobs. The courses are offered by the high schools and the Regional Occupational Program which is mostly on-the-job training.
PERSONS SERVED	High School Students
PERSONS INTERVIEWED	Donald Averill Director, Career Education
INTERVIEWERS	Richard J. Miguel Allen A. Wiant
DATE OF VISIT	April 29, 1977

PROGRAM	DEEPER INVESTIGATION OF GROWTH (DIG)
ORGANIZATION	Columbia University Office of University Placement and Career Services Career Advising Division 306 East Hall New York, New York 10027 (212) 280-5497
DIRECTOR	Richard M. Gummere, Jr. Director, Career Advising Division
PROGRAM TYPE	Career Counseling
DESCRIPTION	DIG is a structured program of occupational guidance offered to students and alumni. Some individuals want help in finding a career; others want help in launching or pursuing one. The program teaches them to identify connections between successes in life and possible career options. It helps them to recognize emerging patterns of skills that appear to be career relevant. Participants do a "success factor analysis," recognize competencies, define work objectives, design a resume based on work functions, and learn job-hunting skills.
PERSONS SERVED	Alumni and currently enrolled students of Columbia University
PERSONS INTERVIEWED	Richard M. Gummere, Jr. Director, Career Advising Division DIG Program Designer J. Arnold O'Steen Placement Officer
INTERVIEWERS	Richard J. Miguel Allen A. Wiant
DATE OF VISIT	December 1-2, 1976

PROGRAM	HIGH SCHOOL INVOLVEMENT PROGRAM (HIP)
ORGANIZATION	Northrop Corporation 3901 West Broadway Hawthorne, California 90250 (213) 970-3005
DIRECTOR	Betty J. Benson HIP Training Coordinator
PROGRAM TYPE	Experiential Work Education
DESCRIPTION	HIP provides students with on-the-job training to develop employable skills and desirable work attitudes in an apprentice-like context. Students work at the Northrop facility two hours a day, five days a week for 16 weeks. Emphasizing "hands-on" experiences, 60 types of jobs are offered to approximately 170 students at a time. This is the maximum number of students Northrop can accommodate in order to provide the individualization they feel is essential to their program's success. Individualized attention and evaluation of progress are among its important features.
PERSONS SERVED	Seniors from 18 surrounding high schools
PERSONS INTERVIEWED	Betty J. Benson HIP Training Coordinator Several HIP students
INTERVIEWERS	Richard J. Miguel Allen A. Wiant
DATE OF VISIT	April 27, 1977

PROGRAM	MANAGEMENT DEVELOPMENT PROGRAMS
ORGANIZATION	American Management Associations Planning and Development Division 135 West 50th Street New York, New York 10020 (212) 586-8100
DIRECTOR	Edward O. Malott, Jr. Vice President Planning and Development
PROGRAM TYPE	Educational services to management
DESCRIPTION	The Center for Management Development presents over 2,200 programs to earn a promotion, to develop a new set of skills, and to get new ideas that can change corporate life. The main purpose of this Center is to help managers develop, step by step, to the utmost of their capacities. Skill development common to all general management courses are in the areas of administrative skills and interpersonal skills.
PERSONS SERVED	Managers, directors, presidents: 50,000 managers attend programs at AMA each year. AMA membership exceeds 52,000.
PERSONS INTERVIEWED	Edward O. Malott, Jr. Vice President Planning and Development Treadway C. Parker Director Organization Development Services
INTERVIEWERS	Richard J. Miguel Allen A. Wiant
DATE OF VISIT	December 2-3, 1976

PROGRAM	PERSONAL VITALITY PROGRAM
ORGANIZATION	International Business Machines Corporation General Products Division 5600 Cottle Road San Jose, California 95193 (408) 256-6213
DIRECTOR	Donald B. Miller Program Manager for Human Resources
PROGRAM TYPE	Managing Career and Other Activities
DESCRIPTION	The Vitality Program developed by IBM is designed to help improve the performance and productivity of engineers. One facet of the program focuses on the interface of the employee and the organization particularly as change is imminent in the engineers' or professionals' careers. It helps engineers to understand themselves better, to define productivity, and to increase their ability to perform effectively and vigorously. IBM's concept of "career vitality," illuminates the discussion of occupational change problems. Using an inventory to help assess their personal growth and vitality, employees discover their motivations for and attitudes toward change and develop a plan for managing their careers. Many of the employees who participate in this many faceted program are able to change dissatisfactions with their present jobs into improvements or a career change.
PERSONS SERVED	Engineers and other professionals
PERSONS INTERVIEWED	Donald B. Miller Program Manager for Human Resources
INTERVIEWERS	Richard J. Miguel Allen A. Wiant
DATE OF VISIT	May 2, 1977

PROGRAM	SALABLE SKILLS PROJECT
ORGANIZATION	The School Board of Broward County, Florida Division of Instructional Services 1001 N. W. 4th Street Fort Lauderdale, Florida 33311 (305) 765-6480
DIRECTOR	Anne McMichael Career Education Coordinator
PROGRAM TYPE	High School Career Preparation
DESCRIPTION	A program for the development and verification of salable skills is underway on a pilot basis in four high schools in Broward County. Salable skills have been defined to mean: skills necessary to perform jobs, and employability skills necessary to obtain and retain jobs. The strategies include both in- and out-of-school experiences. The design of this program is based upon interviews with workers in 200 occupations to identify the competencies necessary for their jobs. An infusion of the interview data and identified employability skills is being made with the existing curricula. Upon graduation, students will receive a salable skills certificate. The program was implemented in the 1975-76 school year with 6,800 students.
PERSONS SERVED	All students within local high schools.
PERSONS INTERVIEWED	Anne McMichael Career Education Coordinator Norine Stritter Interviewer, SSP Robert Boegli Asst. Director, Vocational and Technical Education Cooper City High School Staff Ray De la Feuilliez, Admin. Asst. Ben Arculeo, Admin. Asst. Jim Yach, Learning Coordinator, Community-Based Career Education Claire Cohen, Occupational Spec. Laurie Irvine, Counselor, SSP
INTERVIEWERS	Richard J. Miguel William Ashley
DATE OF VISIT	April 18, 1977

PROGRAM	UPGRADING AND TRANSFER PLAN
ORGANIZATION	American Telephone and Telegraph Co. General Employment and Movement Division 195 Broadway New York, New York 10007 (212(393-4545 Mountain Bell, Transfer Bureau Room 630, 930 15th Street Denver, Colorado 80202 (303) 624-5780
DIRECTOR	Hal Schreck, Manager (American Telephone and Telegraph Co.) James Bruce, Manager (Mountain Bell)
PROGRAM TYPE	Employee selection and transfer
DESCRIPTION	This Upgrading and Transfer Plan specifies procedures to be followed in the handling of non-management promotions, laterals and downgrades to jobs in the same or different departments within any AT&T company. The purpose of the plan is to provide the opportunity for employees to be considered for other jobs they may desire by specifying how their requests for each consideration are to be handled. Qualifications specified in "Job Briefs and Qualifications," are evaluated through tests and past performance. Job related and basic qualifications are considered.
PERSONS SERVED	Non-management personnel
PERSONS INTERVIEWED	Hal Schreck Manager General Employment and Movement Division Julie Dimler Staff Specialist Human Resource Utilization Frank Maestas Personnel Supervisor Non-Management Employment/Movement James Bruce Manager Denver Transfer Bureau
INTERVIEWERS	Richard J. Miguel Allen A. Wiant
DATE OF VISIT	December 3, 1976 (New York) December 14, 1976 (Denver)

REPORTS ON OCCUPATIONALLY TRANSFERABLE SKILLS

Altman, J. W. *Transferability of vocational skills: Review of literature and research* (Information Series No. 103), 1976. ($3.80)

A review of what is known about the transferability of occupational skills, describing the process or the facilitators of skill transfer.

Ashley, W. L. *Occupational information resources: A catalog of data bases and classification schemes* (Information Series No. 104), 1977. ($18.20)

A quick and concise reference to the content of 55 existing occupational data bases and 24 job classification schemes. Abstracts of each data base and classification scheme include such information as: identification, investigator, location, documentation, access, design information, subject variables, occupation variables, and organization variables.

Ashley, W. L., & Ammerman, H. L. *Identifying transferable skills: A task classification approach,* 1977.

A report of an exploratory study designed to test the usefulness of five classification schemes in identifying the transferable characteristics of tasks in diverse occupations.

McKinlay, B. *Characteristics of jobs that are considered common: Review of literature and research* (Information Series No. 102), 1976. ($3.80)

A review of various approaches for classifying or clustering jobs, and their use in (a) describing the elements of commonality involved when people make career changes, and (b) understanding better the concepts of occupational adaptability and skill transfer.

Miguel, R. J. *Developing skills for occupational transferability: Insights gained from current practice* (Information Series No. 125), 1977.

A report of clues and suggestions gained in the review of 14 existing training programs, with recommendations for practice which appear to have been successful in recognizing skill transfer and taking advantage of an individual's prior skills and experience.

Pratzner, F. C. *Occupational adaptability and transferable skills: Final project report,* 1977.

A summary final report, presenting and discussing an array of issues encountered in the various project activities, and offering recommendations.

Sjogren, D. *Occupationally transferable skills and characteristics: Review of literature and research* (Information Series No. 105), 1977. ($2.80)

A review of what is known about the range of occupation-related skills and characteristics that could be considered transferable from one occupation to another, describing those transferable skills which are teachable in secondary and postsecondary career preparation programs.

Wiant, A. A. *Transferable skills: The employer's viewpoint,* 1977.

A report of the views expressed in nine meetings across the country by groups of local community and business representatives concerning the types of transferable skills required and useful in their work settings and how a better understanding of transferable skills could improve training and occupational adaptability.

INFORMATION CURRENT AS OF DECEMBER 1977

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